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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,668	08/24/2001	Yasushige Nakamura	011071	1050

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EXAMINER

NOTE, JANIS L

ART UNIT

PAPER NUMBER

1756

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/935,668

Applicant(s)

NAKAMURA ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-5,7,9-11,13,14 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7,9-11,13,14 and 18-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. A request for continued examination (RCE) under 37 CFR

1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicants' submission filed on Oct. 6, 2005, has been entered.

2. The examiner acknowledges the amendments to claims 1 and 5 and the cancellation of claim 6 set forth in the amendment filed on Aug. 8, 2005, which was entered upon the filing of the RCE. The examiner also acknowledges the amendment to claim 1 and the addition of claims 18-22 set forth in the amendment filed on Oct. 6, 2005. Claims 1, 3-5, 7, 9-11, 13, 14, and 18-22 are pending.

3. The objection to claim 6, set forth in the office action mailed on Apr. 7, 2005, paragraph 4, has been mooted by the cancellation of claim 6 set forth in the amendment filed on Aug. 8, 2005.

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The rejection of claims 1 and 3-6 under 35 U.S.C. 112, first paragraph, set forth in the Office action mailed on Apr. 7, 2005, paragraph 7, has been withdrawn in response to the amendment to claim 1 set forth in the amendment filed on Aug. 8, 2005.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1; 3-5, 7, 9-11, 13, 14, and 18-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

(1) Instant claim 1 and claims 3-5, which depend from claim 1, recite that the second polyester resin is a "non-crosslinked" polyester resin having a softening point T<sub>sp</sub> of not lower than 80°C and lower than 110°C.

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Instant claim 20 recites that the second polyester resin is a "linear" polyester resin having a softening point Tsp of not lower than 80°C and lower than 110°C.

Instant claims 7 and 11, and claims dependent thereon, recite that the second polyester resin is "a polymerization product of polyoxypropylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane, polyoxyethylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane and terephthalic acid in the absence of a crosslinking component" and has a softening point Tsp of not lower than 80°C and lower than 110°C.

Instant claims 18 and 21, which depend on claims 1 and 20, respectively, further recite that the second polyester resin is "a polymerization product of polyoxypropylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane, polyoxyethylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane and terephthalic acid in the absence of a crosslinking component."

The originally filed specification does not provide an adequate written description of the second polyester resin recited in the instant claims. Throughout the originally filed specification, the specification discloses only a second non-linear polyester resin having a Tsp of not lower than 80°C and lower than 110°C. See the originally filed specification, page 4, line 36, to page 5, line 1; page 8, lines 11-16

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and 24-31; and page 10, lines 8-10. The term "non-crosslinked" recited in instant claim 1 is broader than the originally disclosed term "non-linear" because it includes "linear" polyester resins. The term "linear polymer" is usually defined as polymers that are not branched, cross-linked, or of a network structure. See Polymer Technology Dictionary, page 225. In light of the definition of the term "linear polymer," the term "non-linear polymer" thus refers to polymers that are branched, cross-linked, or of a network structure. There is no disclosure in the originally filed specification that the second non-linear polyester is a "non-crosslinked" polyester resin as broadly recited in instant claim 1. Nor is there any disclosure that the second polyester resin is a "linear" polyester resin as broadly recited in instant claim 20. Furthermore, there is no disclosure that the second polyester resin is a polymerization product obtained "in the absence of a crosslinking component" as broadly recited in the instant claims 7, 11, 18, and 21. The originally filed specification in Table 1 at page 24, discloses only two particular polyester resins, 2-2 and 2-3, that meet the softening point T<sub>sp</sub> and acid value requirements recited in claims 1, 7, 11, 18, 20, and 21. Polyester resin 2-2 is obtained by reacting 5 mol of polyoxypropylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane and 5 mol polyoxyethylene (2.2)-2,2-

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bis(4-hydroxy-phenyl)propane, a 1:1 molar ratio, with 11 mol of terephthalic acid in the presence of 2 g of dibutyltin oxide for 3 hours at 220°C and for 3 additional hours at 240°C. Polyester resin 2-3 is obtained by reacting 5 mol of polyoxypropylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane and 5 mol polyoxyethylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane, a 1:1 molar ratio, with 12 mol of terephthalic acid in the presence of 3 g of dibutyltin oxide for 3 hours at 220°C and for 2 additional hours at 240°C. Resins 2-2 and 2-3 also have a Tsp of 80°C and 100°C, respectively, and an acid value of 7.5 and 10.6, respectively. The second polyester resin recited in instant claims 1 and 20 are broader than the two narrower disclosed resins 2-2 and 2-3 because they include non-crosslinked polyesters and linear polyesters that are not related to said polyester resins, such as polyester resins that are obtained by other monomers, or polyesters that do not have a Tsp of 80 or 100°C, the Tsp value of resins 2-2 and 2-3, respectively, or polyesters resins do not have the acid values of resins 2-2 and 2-3. Moreover, the second polyester resins recited in instant claims 7, 11, 18, and 21 are broader than the narrower disclosed resins 2-2 and 2-3, because they include polyester resins that are not related to resins 2-2 and 2-3, such as, for example, polyesters that are obtained by other monomers not present in the two

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particular disclosed resins, or polyesters that do not have a Tsp of 80 or 100°C, the Tsp value of resins 2-2 and 2-3, respectively, or polyesters that do not comprise the acid values of resins 2-2 and 2-3. The claim language "second polyester resin being a polymerized product of polyoxypropylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane, polyoxyethylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane and terephthalic acid in the absence of a crosslinking component" recited in instant claims 7, 11, 18, and 21 does not exclude the presence of other acid components and alcohol components that the originally filed specification teaches can be used to obtain the second polyester resin having the acid value and Tsp value recited in the instant claims. The two narrow exemplified polyester resins 2-2 and 2-3 provide an adequate written description for only those two exemplified linear, non-crosslinked polyester resins 2-2 and 2-3.

(2) Instant claim 19 recites that the second polyester resin is a "non-crosslinked" polyester resin having a softening point Tsp of 110°C.

Instant claim 22 recites that the second polyester resin is a "linear" polyester resin having a softening point Tsp of 110°C.

The originally filed specification does not provide an adequate written description of the second polyester resin recited in the instant claims. The discussion regarding the



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lack of disclosure of "non-crosslinked" polyester resins and "linear" polyester resins in item (1) above is incorporated herein by reference. Furthermore, as discussed in item (1) above, throughout the originally filed specification, the specification discloses only a second non-linear polyester resin having a Tsp of "not lower than 80°C and lower than 110°C" (emphasis added). See the originally filed specification, page 4, line 36, to page 5, line 1; and page 8, lines 11-16 and 24-31. Moreover, the originally filed specification discloses the disadvantages of using a second polyester resin having a Tsp of 110°C or higher. The originally filed specification at page 8, lines 26-31, discloses that "[w]hen the softening point Tsp of the polyester resin is 110°C or higher, low energy fixability is lowered." The originally filed specification in Table 1 at page 24, discloses only one particular polyester resin, 2-4, that meets the softening point Tsp and acid value requirements recited in claims 19 and 22. Polyester resin 2-4 is obtained by reacting 5 mol of polyoxypropylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane and 5 mol of polyoxyethylene (2.2)-2,2-bis(4-hydroxy-phenyl)propane, a 1:1 molar ratio, with 13 mol of terephthalic acid in the presence of 6 g of dibutyltin oxide for 3 hours at 220°C and for 3 additional hours at 240°C. Polyester resin 2-4 has a Tsp of

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110°C and an acid value of 19.6. The second polyester resins recited in instant claims 19 and 22 are broader than the single disclosed resin 2-4 because they include non-crosslinked polyesters and linear polyesters that are not related to said polyester resin, such as polyester resins that are obtained by other monomers, or polyesters that do not have the acid value of 19.6. The single exemplified polyester resin 2-4 provides an adequate written description for only the exemplified linear, non-crosslinked polyester resin 2-4.

Applicants' arguments filed on Oct. 6, 2005, have been fully considered but they are not persuasive.

Applicants assert that polyesters 2-1 to 2-5 provide antecedent basis for the second polyester resins recited in the instant claims. Applicants assert that because polyesters 2-1 to 2-5 are obtained by reacting BPA-PO and BPA-EO, dihydric alcohols, with terephthalic acid, a divalent carboxylic acid, it is technically clear that those polyesters are linear polyesters having a non-crosslinked structure.

Applicants' arguments are not persuasive. Contrary to applicants, only two of the five second polyester resins 2-1 to 2-5 are within the scope of the second polyester resin recited in the independent instant claims 1, 7, 11, and 20. The second polyester resins 2-1 and 2-5 are outside the scope of instant

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claims 1, 7, 11, and 20, and claims dependent thereon, because they have acid numbers of 3.5 and 30.5, respectively, which are outside the range of "5 to 20" recited in instant claims 1, 7, 11, and 20. The second polyester resins 2-1, 2-4, and 2-5 have Tsp's of 70, 110, and 120°C, respectively, which are outside the range of "not lower than 80°C and lower than 110°C" recited in claims 1, 7, 11, and 20. As discussed in item (1), the two narrow exemplified species of non-crosslinked polyester resins, 2-2 and 2-3, do not provide an adequate written description of said broad second non-crosslinked polyester resin recited in instant claims 1, 7, and 11, nor of said broad linear polyester resin recited in instant claim 20. The two narrow exemplified polyester resins 2-2 and 2-3 provide an adequate written description for only those two exemplified linear, non-crosslinked polyester resins 2-2 and 2-3. A person having ordinary skill in the art would not of necessity have recognized that the two narrow exemplified species are representative of the entire scope of the broad second non-crosslinked polyester resin and broad linear polyester resin recited in the instant claims.

As discussed in item (1) supra, the originally filed specification only refers to the second polyester as a "non-linear" polyester resin having a Tsp of not lower than 80°C and

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lower than 110°C. There is no disclosure of a second non-crosslinked polyester resin as broadly recited in instant independent claims 1, 7, and 11, or of a second linear polyester resin broadly recited in instant claim 20. Nor is there any disclosure that the disclosed second non-linear polyester is not cross-linked.

Accordingly, for the reasons discussed in item (1) above, the rejection of claims 1, 3-5, 7, 9-11, 13, 14, and 18 stands.

Moreover, as discussed in item (2) above, the originally filed specification only refers to the second polyester as a "non-linear" polyester resin having a Tsp of not lower than 80°C and lower than 110°C. The originally filed specification teaches the disadvantages of using a polyester resin having a Tsp of 110°C or more. Exemplified second polyester resins 2-4 is the only disclosure of a second polyester resin having a Tsp of 110°C and an acid value as recited in instant claims 19 and 22. As discussed in item (2), the single exemplified species of a linear, non-crosslinked polyester resin, 2-4, does not provide an adequate written description of said broad second non-crosslinked polyester resin recited in instant claim 19 and said broad linear polyester resin recited in instant claim 22. The single exemplified polyester resin 2-4 provides an adequate written description for only the linear, non-crosslinked

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polyester resin 2-4. A person having ordinary skill in the art would not of necessity have recognized that the one narrow exemplified species is representative of the entire scope of the broad second non-crosslinked polyester resin and broad linear polyester resin recited in the instant claims.

Accordingly, for the reasons discussed in item (2) above, the rejection of claims 19 and 22 stands.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (571) 273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD  
Oct. 30, 2005

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GROUP 1500  
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